ABSTRACT

Automated defect sourcing system identifies root-causes of yield excursion due to contamination, process faults, equipment failure and/or handling in timely manner and provides accurate timely feedback to address and contain the sources of yield excursion. A signature bank stores known wafer surface manufacturing defects as defect signatures. The signature of a manufacturing defect pattern is associated with a type of equipment or process, and used to source the manufacturing defects and to provide process control for changing and/or stopping yield excursion during fabrication. A defect signature recognition engine matches wafer defects against the signature bank during wafer fabrication. Once the defect signature is detected during fabrication, handling and/or disposing the root-cause of the corresponding defect is facilitated using messages according to an event handling database. Optionally, a real-time process control for wafer fabrication is provided.